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Daniel Berki-Kiss\*, Paul Lampert, Klaus Menrad

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\*Corresponding Author:

Daniel Berki-Kiss  
University of Applied Sciences Weihenstephan-Triesdorf  
TUM Campus Straubing for Biotechnology and Sustainability  
Chair of Marketing and Management of Biogenic Resources  
Petersgasse 18, 94315 Straubing, Germany

Email: [daniel.berki-kiss@hswt.de](mailto:daniel.berki-kiss@hswt.de)

## **Fairtrade or conventional roses – Influencing factors for sustainability conscious consumer choice**

Daniel Berki-Kiss, Paul Lampert, Klaus Menrad

University of Applied Sciences Weihenstephan-Triesdorf, TUM Campus Straubing for Biotechnology and Sustainability, Germany.

### **1. Introduction, Knowledge, Objectives**

In recent years consumers' behavior changed significantly for various product groups in different countries. New forms of sustainable consumption like green, local, ethical or others are gaining on importance at private household level (Harvey et al., 2014). In accordance, the demand for sustainable products in Europe showed an increasing trend in several studies (e.g. MIGROS-Gruppe, 2017; Seitz, 2013). As reported by the food retailer MIGROS sustainability labels in some product assortments have increased up to a factor of 1.7 in the years between 2013 and 2016. This development is also affecting the markets of horticultural products in Germany, which explains the interest in this topic. With regard to the market volume in Germany, the last decade showed a stagnating development with little fluctuation at approximately 8.7 billion Euros, whereof cut flowers hold the highest share (35%) in 2016 (AMI, 2016). In the same year 44% of cut flowers were cut roses (Tröster, 2016), and according to a report of the CBI, the cut roses market of Germany is the largest one in Europe (CBI, 2017).

Considering the definition of the United Nations, sustainability means a “development that meets the needs of the present without compromising the ability of future generations” (Brundtland, 1991). Thus, sustainable consumption is inevitably affected by consumers, so their responsibility needs to be addressed. In this context labels operate as credentials for sustainability attributes and they have a long history on the German horticultural market. Apparently, in recent years aspects of sustainability are divided in several subgroups, which results in a plethora of new labels. Product differentiation is the emphasis of labeling but this is often confusing for consumers as well. Therefore, we wanted to answer two main questions: 1) What are the relevant sustainability criteria for consumers related to production and distribution of ornamental plants and especially of cut roses, and 2) which labels are preferred by consumers when purchasing horticultural products?

### **2. Material and Methods**

#### Expert Interviews

Following a literature review in the topic, actors of the production side of ornamental plants were invited for interviews at an international fair (IPM 2017) in Essen, Germany. Six out of

twenty experts accepted the invitation. We included representatives along the value chain of ornamental plants from seed production, over retailing and wholesales companies to a certification organization (TransFair e.V.). The interviews lasted approximately 60 minutes, were recorded and transcribed later. Due to their longstanding and successful careers in the field, we gained valuable information from our interview partners. They were chosen deliberately from the list of exhibitors and no incentives were paid. The focus of the questions was on personal experiences with sustainability and their opinions on labels and communication towards consumers. Later, a qualitative evaluation of their answers shows that sustainability might be an important factor of marketing of ornamental plants. A special emphasis is put on the two labels Fairtrade and BIO (organic), which are the most common in the field of ornamental plants in Germany based on different studies (Seitz, 2013; Bio Verlag GmbH, 2013).

#### Online Survey – Data Collection

To test the insights gained in the expert interviews, we conducted an online survey, where 143 people in total participated and 99 of them could be taken into consideration for statistical analysis. It was a random selection of participants, with no prior quotation. Though, gender distribution was almost equal and answers were collected in all age groups. The questionnaire was designed with the online tool LimeSurvey (version 2.67.3), announced in a local newspaper and distributed via social media and emailing lists. This online survey was designed as a pre-study to another survey including an additional conjoint analysis with a sample size of 1,201 complete responses that was carried out in December 2017. The aim of the pre-study was to define relevant sustainability criteria in connection with cut roses directly out of a consumer perspective.

#### Statistical Analyses

Participants were asked about their knowledge in this field, their personal relevance and further emphasis was put on label trust and prominence. The statistical program SPSS (Statistical Package for the Social Science) was used to calculate descriptive statistics and comparison of means. A cluster analysis was carried out with the data and then an analysis of variance (ANOVA) defined the specialties of the identified groups.

### **3. Results**

The outcomes based on the expert interviews show that social aspects are assumed to affect consumers most, probably because they can easier relate to them. Also ecological aspects like conservation of resources and protection of bees show influence. The interview partners also described the difficulties of informing the consumer due to limited space and labels that are hard to understand. Altogether the majority came to the conclusion that labels like Fairtrade and BIO (organic) are affecting consumer choices positively. They are specifically designed for consumers and according to the experts they raise awareness and emphasize a specific quality.

According to the findings of the online survey the results of the expert interviews seem to be supported. The random sample of 99 respondents is in many aspects not representative

for the German population, besides gender distribution (female: 52.5%; male: 47.5%). Especially age classes are not balanced with a shift towards the younger groups below 41 years (77.7%). The participants evaluated a list of potentially relevant purchasing criteria on a 5-point Likert scale from “very important” to “not important at all”. As shown in figure 1 social aspects are followed by extrinsic characteristics like color or quality. Then there is a wide range of ecological aspects, but besides reduction of plastic all the others are less important. Surprisingly regional production and short transportation distances seem to make little difference when consumers choose their preferred cut roses.

Moreover, recognition and trust of four established sustainability labels on the German market were tested in a self-reporting manner. The participants were asked to give multiple choice answers. The most prominent labels relevant for cut roses were Fairtrade (96.8%) and BIO (60.6%). In regards of trust there is a noticeable difference between the two: Fairtrade is trusted by 84.5% and BIO by 39.3%, which is assumed to be the consequence to the rare occurrence of organic roses in comparison to Fairtrade roses (Isarland Biohandel GmbH, 2018). It is also assumed that the uncontrolled and misleading use of the term BIO in different fields might result in distrust by the respondents.

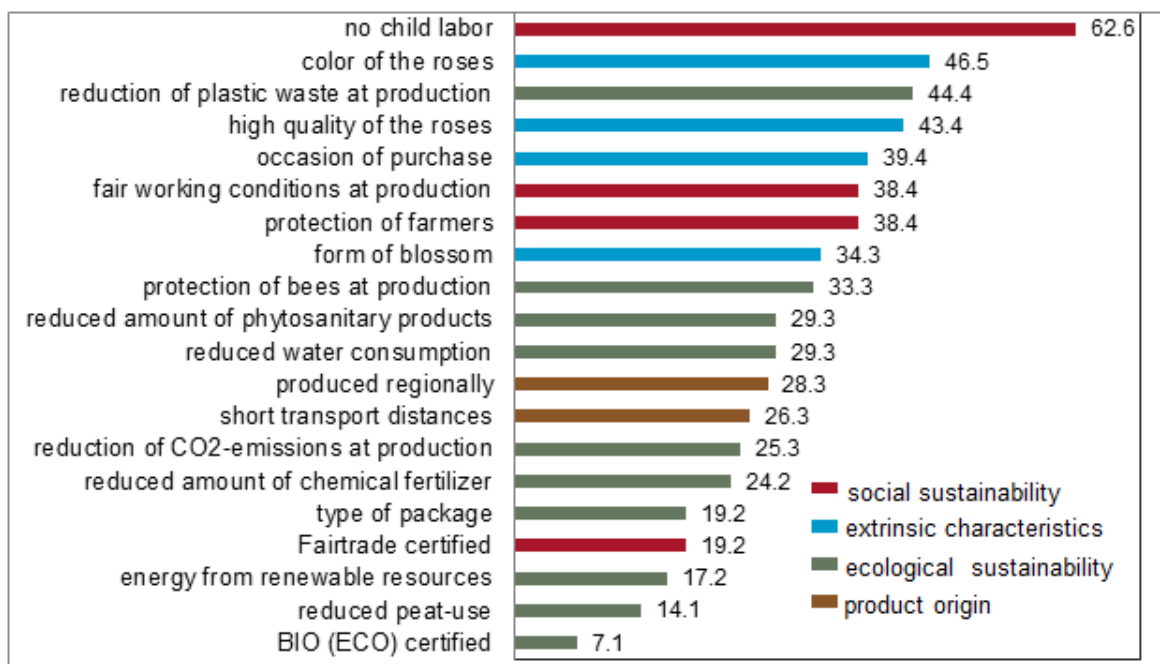


Figure 1: Relative relevance of sustainability criteria at purchasing cut roses (frequency in %).

A cluster analysis carried out with the help of SPSS divided the sample in two groups. The results show that the majority of the respondents values social and ecological factors more than extrinsic quality characteristics of cut roses.

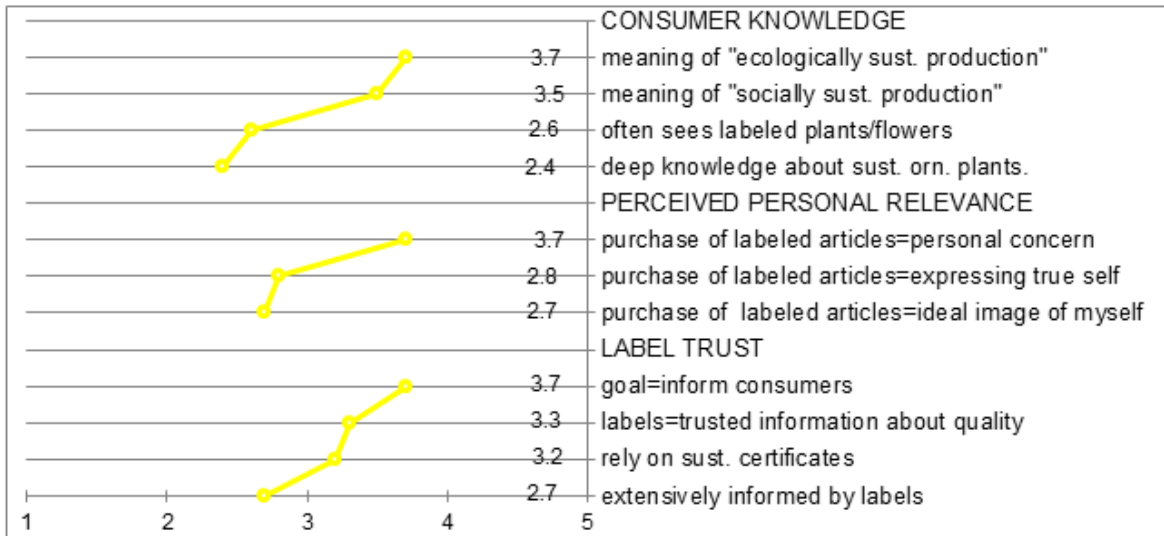


Figure 2: Mean values (5-point Likert-scales).

Respectively both clusters prefer a high quality but there are noticeable differences regarding the perceived importance of other aspects. Further, the results of an analysis of variance (ANOVA) based on this cluster analysis show that consumer knowledge (0.039) and personal relevance (0.000) significantly affect group membership at a level of 95%. Whereas, label trust values (0.362) do not differ much between the two groups. The mean values in figure 2 show the more important manifestations of these constructs. Self-reportedly more than 50% of the participants understand the meaning of ecological and social sustainability and the figure also shows that personal concern drives most of them to purchase cut roses with sustainability labels. However, the majority of consumers have little trust in labels. They acknowledge the purpose of labels in informing the customer but only 40% see this task partially fulfilled. Still, 41% tend to believe that labels are promoting a higher quality, which supports the findings of the expert interviews.

#### 4. Discussion

Social aspects of sustainability seem to be important for buyers of cut roses if the extrinsic quality is fulfilled. According to figure 1 no child labor and protection of the workers seem to affect consumer choices when buying cut roses. Additionally the purpose of the purchase has an important influence. Consumers seem to be concerned about plastic waste and the protection of bees. But regional production shows a rather mediocre importance in contrast to some former studies (e.g. Meyerding, 2016).

A further finding of this study is that the labels BIO but especially Fairtrade seem to have a positive influence on consumer choices which is in accordance with previous studies like Klaehre (2016). On the contrary, the results also show that the majority of the respondents have little trust in sustainability labels in general.

#### 5. Conclusions

The synoptic outcomes of the studies propose a positive influence for the organic (BIO) and the Fairtrade label on consumers of cut roses in Germany. These two sustainability labels were mentioned by the experts to be especially consumer oriented. But also the respondents of the survey endorse a high value in prominence for the two mentioned certifications, which is in accordance with some previous studies (e.g. Seitz, 2013; Bio Verlag, 2013). Regardless of extrinsic quality characteristics, there are some important sustainability aspects affecting consumer choices like e.g. no child labor (62.2%), reduction of plastic waste (44.4%), fair working conditions, protection of the workers (38.4% each) and protection of bees 33.3%). In conclusion, producers could possibly enhance sales by extending the knowledge of consumers regarding this specific information. Especially the information directly at point-of-sale level might be important considering the deficiency of space on the package of cut roses reported by experts. Likewise, the trustworthiness of labels needs to be prioritized in a way that consumers feel confident about choosing products with certain labels. The majority of the respondents (approximately 60.0%), that is to say, do not feel sufficiently informed by labels and are not convinced of their qualitative benefits.

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